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(71) Applicant (*for all designated States except US*): **STATE OF OREGON ACTING BY AND THROUGH THE STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIVERSITY** [US/US]; Office of Technology Transfer, 312 Kerr Administration Building, Corvallis, OR 97331-2140 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **PAUL, Brian, K.** [US/US]; 2005 N.W. Lance Way, Corvallis, OR 97330 (US). **PLUESS, Christoph** [CH/CH]; Weissenbuehlweg 40, CH-3004 Bern (CH). **SHARMA, Nitin** [IN/US]; 242 Acalanes Drive, #1, Sunnyvale, CA 94086 (US). **DOOLEN, Toni, L.** [US/US]; 4036 NW Live Oak Place, Corvallis, OR 97330 (US).

(74) Agent: **SLATER, Stacey, C.**; Klarquist Sparkman, LLP, One World Trade Center, Suite 1600, 121 SW Salmon Street, Portland, OR 97204 (US).

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(54) Title: HIGH VOLUME MICROLAMINATION PRODUCTION OF DEVICES

(57) Abstract: Embodiments of a differential thermal expansion bonding device are described for the high volume bonding of laminae together to form a MECS device. One embodiment of the device comprises a frame, engager made of a solid, liquid or gas, preload with springs and platens. Other embodiments of a method for bonding laminae together to form a MECS device using surface mount technology (SMT) techniques are described, with one embodiment being directed towards conveyorized bonding. The method including providing laminae to be bonded that do not include a solder mask, microething at least a portion of at least one lamina, applying solder paste to a microetched portion, and bonding the laminae together using the solder paste. A method for continuously bonding laminae also is described, such as by using a conveyorized furnace for applying heat to a workpiece functionally associated with the bonding device. The method can include forced convective heating, cooling or both, using inert gas flush. A method and fixture for registering laminae compatible with the differential thermal expansion bonding device by using integral compliant features is also described.